

**Remarks/Arguments:**

By this Amendment, applicants have amended claims 1 and 48. Claims 1-8, 10, 12-15, 19-23, 37, 38, and 48 are pending.

**Claim Rejections Under Section 102 and 103**

Claims 1-3, 6, and 8 stand rejected under 35 U.S.C. § 103(b) as being anticipated by Tsukada; claims 48, 10, 12-15, 19, and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tsukada; claims 4, 5, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukada; claims 20, 21, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukada; claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukada in view of Pellegrino; and claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukada in view of Pellegrino. By this Amendment, applicants respectfully traverse the Section 102(b) and Section 103(a) rejections.

Claims 1 is an independent claim with claims 2-8 and 37 dependent thereon. Claim 48 is an independent claim with claims 10, 12-15, 19-23, and 38 dependent thereon.

Turning first to independent claim 1, it is directed to a printed circuit board for use in an electronic device package and includes the following elements:

- a substrate layer including impregnated glass fibers,
- a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to the substrate layer, and
- an electrically conductive circuit comprising a conductive material, **the electrically conductive circuitry encapsulated by the non-conductive layer such that the electrically conductive circuit is without contact to the substrate layer and the non-conductive layer lies between the substrate layer and the electrically conductive circuitry to prevent shorts therebetween caused by migration of the conductive material along said glass fibers.**

It is applicants' contention that the printed circuit board of claim 1 is patentably distinguished from both the Tsukada and Pellegrino Patents at least based on the feature that the electrically conductive circuitry is encapsulated by the non-conductive layer such that the

electrically conductive circuit is without contact to the substrate layer, and the non-conductive layer lies between the substrate layer and the electrically conductive circuitry. This feature is neither taught nor suggested in the references of record.

The Tsukada Patent at Fig. 1F, for example, shows a glass epoxy substrate 10 with an electrically insulating material 18 on the glass epoxy substrate 10. A second photosensitive resin insulating layer 28 is on the electrically insulating material 18. Signal wiring conductors 16 are on the glass epoxy substrate 10 and therefore in contact with the glass epoxy substrate 10. Applicants further note that the signal wiring conductors 26 also rest and are in contact with the glass epoxy substrate 10. Thus, these conductive materials shown in Fig. 1F of the Tsukada Patent are in contact with the glass epoxy substrate 10. This is the very condition and structure which applicants' claimed invention avoids in order to prevent shorts which are caused by migration of conductive material along the glass fibers. Thus, the Tsukada Patent simply does not teach or suggest this feature of applicants' claimed invention. Neither does the Pellegrino Patent teach this feature.

The Pellegrino Patent in general relates to a method for mass producing printed circuit boards. In particular, the Pellegrino Patent has been cited with respect to the citation at col. 4, line 63 of "an epoxy resin impregnated fiberglass mat." But nowhere in the Pellegrino Patent is there any teaching or suggestion of the above-noted feature of applicants' claim 1. Thus, either alone or in combination, the Tsukada and Pellegrino Patents are patentably distinguished from the printed circuit board defined in applicants' claim 1 and the claims dependent thereon.

Applicants' have amended claim 48 in a similar fashion as they have amended claim 1. Thus, for the same reasons as noted above, claim 48 and the claims dependent thereon are patentably distinguished from the Tsukada and Pellegrino Patents.

Appln. No.: 09/342,584  
Amendment Dated August 5, 2003  
Reply to Office Action of June 20, 2003

EN995141V

Based on the foregoing remarks and amendments, applicants respectfully submit that claims 1-8, 10, 12-15, 19-23, 37, 38 and 48 are in condition for allowance. Applicants request that the Section 102(b) and Section 103(a) rejections be withdrawn. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,

*Daniel N. Calder*  
Daniel N. Calder, Reg. No. 27,424  
Attorney for Applicants

DNC/vj

Dated: December 22, 2003

P.O. Box 980  
Valley Forge, PA 19482  
(610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 09-0457 (IBM Corporation) of any fees associated with this communication

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

December 22, 2003

*Uiclie Jones*

VJ\_I:\IBME\381\AMEND\_05.DOC